

**Table S1.** Health Administrative Databases Providing Study Data from Newfoundland and Labrador, Canada

| <b>Database</b>                           | <b>Data Period</b> | <b>Diagnostic Codes Utilized</b>   | <b>Number of Diagnostic Codes per Entry</b> | <b>Variables Obtained for study datasets</b>  |
|---|--------------------|------------------------------------|---|---|
| MCP Physician Fee-for-Service Claims File | 1999-2010          | 3-digit ICD-9                      | 1   | <ul style="list-style-type: none"><li>• MCP number (de-identified prior to data provision to research team)</li><li>• Service date</li><li>• Diagnostic code</li><li>• Diagnostic description</li><li>• Procedure code</li><li>• Physician specialty code</li></ul> |
| NL Provincial Discharge Abstract Database | 1999-2010          | 5-digit ICD-9 up to March 31, 2001 | Up to 16                                    | <ul style="list-style-type: none"><li>• MCP number (de-identified prior to data provision to research team)</li><li>• Care episode identifier</li></ul>   |

|                      |           |                   |                |   |
|----------------------|-----------|-------------------|----------------|---|
|                      |           | 6-digit ICD-10-CA |                | <ul style="list-style-type: none"> <li>• Admission date</li> <li>• Discharge date</li> <li>• Diagnostic code(s)</li> <li>• Diagnostic description(s)</li> <li>• Diagnostic type</li> <li>• Provider service code</li> <li>• Admission type</li> </ul>                                 |
|                      |           | April 1, 2001     |                |   |
|                      |           | onwards           |                |   |
| MCP Beneficiary File | 1999-2010 | Not applicable    | Not applicable | <ul style="list-style-type: none"> <li>• MCP number (de-identified prior to data provision to research team)</li> <li>• Age as of September 1, 2012</li> <li>• Sex</li> <li>• Rural/urban location of residence based on population cut-off of 4000 in 2009/10 fiscal year</li> </ul> |

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- Regional health authority location of residence in 2009/10 fiscal year
  - MCP eligibility status for each fiscal year from 2003/2004 to 2009/2010
- 

Abbreviations: MCP, Medical Care Plan; ICD-9, *International Classification of Disease – 9<sup>th</sup> Revision*; ICD-10-CA, *International Classification of Disease – 10<sup>th</sup> Revision (Canadian)*; NL, Newfoundland and Labrador.

**Table S2.** Provincial Medical Care Plan Chronic Pain-related Procedure Billing Codes<sup>a</sup> used in Newfoundland and Labrador, Canada

| <b>Procedure Code</b> | <b>Procedure Description</b>   |
|-----------------------|--|
| 400020                | Pain Clinic Consultation   |
| 419020                | Pain Clinic Reassessment   |
| 578000                | Epidural Steroid Injection   |
| 578020                | Intercostal Nerve Block(s)   |
| 578040                | Paravertebral Nerve Block of Thoracic or Lumbar Roots  |
| 578060                | Peripheral Nerve Block for Chronic Pain  |
| 578080                | Cranial Nerve/Branch Block for Chronic Pain  |
| 578100                | Stellate Ganglion Block  |
| 578120                | Intravenous Sympathetic Block by Injection and Infusion of Bretylium, Guanetidine, and Reserpine |

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|        |   |
|--------|---|
| 578140 | Intravenous Injection and Infusion with Lidocaine for the treatment of Chronic Pain |
|--------|---|

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<sup>a</sup> Procedure billing codes used exclusively by anesthesiologists to describe intervention treatments for chronic pain delivered at organized Regional Health Board-approved hospital pain clinics in Newfoundland and Labrador (Medical Care Plan, 2011). Displayed procedure codes are accompanied by the associated procedure descriptions.

Source: Medical Care Plan, Department of Health and Community Services (2011). Medical Payment Schedule - 2009.

Retrieved from [http://www.health.gov.nl.ca/health/mcp/providers/full\\_mcp\\_payment\\_schedule\\_2009.pdf](http://www.health.gov.nl.ca/health/mcp/providers/full_mcp_payment_schedule_2009.pdf)

**Table S3.** Pain-related Diagnostic Codes Recorded by Physicians in the Medical Care Plan Fee-For-Service Physicians Claims File and/or Provincial Discharge Abstract Data of Newfoundland and Labrador, Canada

| <b>Pain Condition<sup>a</sup></b> | <b>ICD-9 Code</b> | <b>Description</b>                | <b>ICD-10-CA Code</b> | <b>Description</b>   |
|-----------------------------------|-------------------|-----------------------------------|-----------------------|--|
| Neuropathic Pain                  |                   |                                   |                       |  |
|                                   | 053               | Herpes Zoster                     | G50                   | Disorders of Trigeminal Nerve                                      |
|                                   | 256               | Ovarian Dysfunction               | G52                   | Disorders of Other Cranial Nerves                                  |
|                                   | 350               | Trigeminal Nerve Disorders        | G53                   | Cranial Nerve Disorder in Diseases Classified Elsewhere            |
|                                   | 351               | Facial Nerve Disorders            | G54                   | Nerve Root and Plexus Diseases                                     |
|                                   | 352               | Disorders of Other Cranial Nerves | G55                   | Nerve Root and Plexus Compression in Diseases Classified Elsewhere |
|                                   | 353               | Nerve Root and Plexus Disorders   | G56                   | Mononeuropathies of Upper Limb                                     |

|     |  |     |  |
|-----|--|-----|--|
| 354 | Mononeuritis of Upper Limb and<br>Mononeuritis Multiplex | G57 | Mononeuropathies of Lower Limb                               |
| 355 | Mononeuritis of Lower Limb                               | G58 | Other Mononeuropathies                                       |
| 356 | Hereditary and Idiopathic<br>Peripheral Neuropathy       | G59 | Mononeuropathy in Diseases Classified<br>Elsewhere           |
| 357 | Inflammatory and Toxic<br>Neuropathy                     | G60 | Hereditary and Idiopathic Neuropathy                         |
| 729 | Other Disorders of Soft Tissue                           | G61 | Inflammatory Polyneuropathy                                  |
|     |  | G62 | Other and Unspecified Polyneuropathies                       |
|     |  | G63 | Polyneuropathy in Diseases Classified<br>Elsewhere           |
|     |  | G64 | Other Diseases of the Peripheral Nervous<br>System           |
|     |  | G82 | Paraplegia (Paraparesis) and Quadriplegia<br>(Quadriparesis) |

|                 |   |     |  |
|-----------------|---|-----|--|
|                 |   | G97 | Intraoperative and Post-procedural<br>Complications and Disorders of Nervous<br>System, Not Elsewhere Classified |
|                 |   | M89 | Other Disorders of Bone  |
|                 |   | R29 | Other Symptoms and Signs Involving the<br>Nervous and Musculoskeletal Systems                                    |
| Musculoskeletal |   |     |  |
| Conditions and  |   |     |  |
| Arthritis       |   |     |  |
| 710             | Diffuse Diseases of Connective<br>Tissue  | M05 | Rheumatoid Arthritis with Rheumatoid Factor  |
| 711             | Arthropathy Associated with<br>Infections | M06 | Other Rheumatoid Arthritis   |
| 712             | Crystal Arthropathies                     | M07 | Enteropathic Arthropathies   |



|     |  |     |  |
|-----|--|-----|--|
| 713 | Arthropathy Associated with Other Disorders Classified Elsewhere | M08 | Juvenile Arthritis                                   |
| 714 | Rheumatoid Arthritis and Other Inflammatory Polyarthropathies    | M10 | Gout   |
| 715 | Osteoarthritis and Allied Disorders                              | M11 | Other Crystal Arthropathies                          |
| 716 | Other and Unspecified Arthropathies                              | M12 | Other and Unspecified Arthropathy                    |
| 717 | Internal Derangement of Knee                                     | M13 | Other Arthritis                                      |
| 718 | Other Derangement of Joint                                       | M14 | Arthropathies in Other Diseases Classified Elsewhere |
| 719 | Other and Unspecified Disorders of Joint                         | M15 | Polyosteoarthritis                                   |
| 725 | Polymyalgia Rheumatica   | M16 | Osteoarthritis of Hip                                |
| 726 | Peripheral Enthesopathies and Allied Syndromes                   | M17 | Osteoarthritis of Knee                               |

|                     |  |     |   |
|---------------------|--|-----|---|
| 727                 | Other Disorders of Synovium,<br>Tendon, and Bursa                | M18 | Osteoarthritis of First Carpometacarpal Joint                               |
| 728                 | Disorders of Muscle, Ligament, and<br>Fascia                     | M19 | Other and Unspecified Osteoarthritis  |
|                     |  | M23 | Disorder of Patella   |
|                     |  | M24 | Other Specified Joint Derangements  |
|                     |  | M25 | Other Joint Disorder, Not Classified Elsewhere                              |
|                     |  | M36 | Systemic Disorders of Connective Tissue in<br>Diseases Classified Elsewhere |
|                     |  | M77 | Other Enthesopathies  |
|                     |  | R26 | Abnormalities of Gait and Mobility  |
| Back/neck disorders |  |     |   |
| 720                 | Ankylosing Spondylitis and Other<br>Inflammatory Spondylopathies | M43 | Other Deforming Dorsopathies  |

|     |  |     |  |
|-----|--|-----|--|
| 721 | Spondylosis and Allied Disorders                                   | M45 | Ankylosing Spondylitis   |
| 722 | Intervertebral Disc Disorders                                      | M46 | Other Inflammatory Spondylopathies                                     |
| 723 | Other Disorders of Cervical Region                                 | M48 | Other Spondylopathies  |
| 724 | Other and Unspecified Disorders of Back                            | M49 | Spondylopathies in Diseases Classified Elsewhere                       |
| 737 | Curvature of Spine   | M50 | Cervical Disc Disorders  |
| 738 | Other Acquired Deformity   | M51 | Thoracic, Thoracolumbar, and Lumbosacral Intervertebral Disc Disorders |
| 739 | Nonallopathic Lesions, Not Elsewhere Classified                    | M54 | Dorsalgia  |
| 756 | Other Congenital Musculoskeletal Anomalies                         | M81 | Osteoporosis without Current Pathological Fracture                     |
| 805 | Fracture of Vertebral Column without mention of Spinal Cord Injury | M82 | Osteoporosis in Diseases Classified Elsewhere                          |

|                |  |
|----------------|--|
| 806            | Fracture of Vertebral Column with<br>Spinal Cord Injury            |
| 839            | Other, Multiple, and Ill-defined<br>Dislocations                   |
| 846            | Sprains and strains of Sacroiliac<br>Region                        |
| 847            | Sprains and Strains of Other<br>Unspecified Parts of Back          |
| 848            | Other and Ill-defined Sprains and<br>Strains                       |
| 905            | Late Effects of Musculoskeletal and<br>Connective Tissue Injuries  |
| Bone Disorders |  |
| 730            | Osteomyelitis, Periostitis, and Other<br>Infections Involving Bone |

|                 |  |     |  |
|-----------------|--|-----|--|
| 731             | Osteitis Deformans and<br>Osteopathies Associated with Other<br>Disorders Classified Elsewhere |     |  |
| 732             | Osteochondropathies  |     |  |
| 733             | Other Disorders of Bone and<br>Cartilage   |     |  |
| 734             | Flatfoot   |     |  |
| 735             | Acquired Deformities of Toe  |     |  |
| 736             | Other Acquired Deformities of<br>Limbs   |     |  |
| Musculoskeletal |  |     |  |
| Trauma          |  |     |  |
| 808             | Fracture of Pelvis   | S12 | Fracture of Cervical Vertebra and Other Parts<br>of Neck |

|     |   |     |   |
|-----|---|-----|---|
| 830 | Dislocation of Jaw                            | S22 | Fracture of Rib(s), Sternum, and Thoracic Spine                   |
| 831 | Dislocation of Shoulder                       | S32 | Fracture of the Lumbar Spine and Pelvis                           |
| 832 | Dislocation of Elbow                          | S42 | Fracture of the Shoulder and Upper Arm                            |
| 840 | Sprains and Strains of Shoulder and Upper Arm | S43 | Dislocation and Sprain of Joints and Ligaments of Shoulder Girdle |
| 841 | Sprains and Strains of Elbow and Forearm      | S53 | Dislocation and Sprain of Joints and Ligaments of Elbow           |
| 842 | Sprains and Strains of Wrist and Hand         | T02 | Fractures Involving Several Regions of the Body                   |
| 843 | Sprains and Strains of Hip and Thigh          | T08 | Fractures of the Spine, Level Not Specified                       |
| 844 | Sprains and Strains of Knee and Leg           | T91 | Sequelae of Injuries of Neck and Body                             |
| 845 | Sprains and Strains of Ankle and Foot         |     |   |

| Headaches                                     |   |     |   |
|---|---|-----|---|
| 346   | Migraine  | G43 | Migraine                                  |
| 784   | Symptoms Involving Head and Neck                              | G44 | Other Headache Syndromes                  |
|   |   | R51 | Headache                                  |
| Other conditions associated with chronic pain |   |     |   |
| 307   | Special Symptoms or Syndromes, Not Elsewhere Classified       | F45 | Somatoform Disorders                      |
| 564   | Functional Digestive Disorders, Not Elsewhere Classified      | G96 | Other Disorders of Central Nervous System |
| 625   | Pain and Other Symptoms Associated with Female Genital Organs | L89 | Pressure Ulcer                            |

|     |  |     |   |
|-----|--|-----|---|
| 781 | Symptoms Involving Nervous and Musculoskeletal Systems | L97 | Non-Pressure Chronic Ulcer of Lower Limb, Not Elsewhere Classified        |
| 789 | Other Symptoms Involving Abdomen and Pelvis            | L98 | Other Disorders of Skin and Subcutaneous Tissue, Not Elsewhere Classified |
| 907 | Late Effects of Injuries to the Nervous System         | M22 | Internal Derangement of Knee  |
| 908 | Late Effects of Other and Unspecified Injuries         | M47 | Spondylosis   |
|     |  | M53 | Other and Unspecified Dorsopathies, Not Elsewhere Classified              |
|     |  | M65 | Synovitis and Tenosynovitis   |
|     |  | M70 | Soft Tissue Disorders Related to Use, Overuse, and Pressure               |
|     |  | M75 | Shoulder Lesions  |
|     |  | M79 | Other Enthesopathies  |



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|     |   |
|-----|---|
| M80 | Other and Unspecified Soft Tissue Disorders,<br>Not Elsewhere Classified      |
| M99 | Biomechanical Lesions, Not Elsewhere<br>Classified                            |
| R07 | Pain in Throat and Chest  |
| R10 | Abdominal and Pelvic Pain   |
| R52 | Pain, Unspecified   |
| S13 | Dislocation and Sprain of Joints and Ligaments<br>at Neck Level               |
| T85 | Complications of Other Internal Prosthetic<br>Devices, Implants, and Grafts   |
| T88 | Other Complications of Surgical and Medical<br>Care, Not Elsewhere Classified |
| T92 | Sequelae of Injuries of Upper Limb  |
| T93 | Sequelae of Injuries of Lower Limb  |

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|     |  |
|-----|--|
| T94 | Sequelae of Injuries Involving Multiple and<br>Unspecified Body Region |
|-----|--|

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Abbreviations: ICD-9, *International Classification of Disease – 9<sup>th</sup> Revision*; ICD-10-CA, *International Classification of Disease – 10<sup>th</sup> Revision (Canadian)*.

<sup>a</sup> All diagnostic codes are organized by pain condition. All diagnostic codes are displayed in the three-digit *International Classification of Disease – 9<sup>th</sup> Revision* and the *International Classification of Disease – 10<sup>th</sup> Revision (Canadian)* format with the accompanying description. See Table S1 for further description of code formats used in the Newfoundland and Labrador health administrative datasets.

**Table S4.** Summary of Canadian Chronic Disease Surveillance System Coding Algorithm Case Definitions for Comorbid Conditions

| <b>Health Condition</b>     | <b>Hospital<br/>Diagnosis Codes<br/>(ICD-9 up to and<br/>including March<br/>31, 2001; ICD-10-<br/>CA from April 1,<br/>2001 onwards)</b> | <b>Physician fee-for-<br/>service Diagnosis<br/>Codes (ICD-9)</b> | <b>Case Definition</b>   | <b>Age</b> | <b>Start year<br/>for<br/>reporting</b> |
|-----------------------------|---|---|--|------------|---|
| Mental health<br>conditions | 290-319 up to and<br>including March<br>31, 2001  | 290-319   | One or more hospitalizations<br>or one or more physician<br>claims within one year | 1+         | 2000-01                                 |

F00-F99 from  
 April 1, 2001  
 onward

|  |   |                            |  |     |         |
|--|---|----------------------------|--|-----|---------|
| Hypertension,<br>pregnancy-induced<br>hypertension<br>excluded | 401; 402; 403;<br>404; 405 up to and<br>including March<br>31, 2001 | 401; 402; 403;<br>404; 405 | One or more hospitalizations<br>or two or more physician<br>claims within two years  | 20+ | 2000-01 |
|  | I10, I11, I12, I13,<br>I15 from April 1,<br>2001 onward             |                            | Special exclusion: Pregnancy-<br>induced hypertension in<br>women age 20-54: 120 days<br>preceding or 180 days after<br>hospital records containing<br>any of the gestational<br>diagnostic codes. |     |         |
|  |   |                            | <ul style="list-style-type: none"> <li>• ICD-9: 641-676, V27</li> </ul>  |     |         |

- ICD-10 and ICD-10-CA: O1, O21-95, O98, O99, Z37

|   |  |               |   |    |         |
|---|--|---------------|---|----|---------|
| Mood and anxiety disorders                                | 296; 300; 311 up to and including March 31, 2001 | 296; 300; 311 | One or more hospitalizations or one or more physician claims within one year  | 1+ | 2000-01 |
|   | F30-F42, F44-F48, F68 from April 1, 2001 onward  |               |   |    |         |
| Diabetes, type unspecified, gestational diabetes excluded | 250 up to and including March 31, 2001           | 250           | One or more hospitalizations or two or more physician claims within two years | 1+ | 2000-01 |
|   | E10, E11, E12, E13, E14 from                     |               | Special exclusion: Evidence from women aged 10-54 is                          |    |         |

April 1, 2001  
onward

removed 120 days preceding  
or 180 days after hospital  
records containing any of the  
pregnancy-related and  
obstetrical codes:  

- ICD-9: 641-676, V27
- ICD-10 and ICD-10-CA: O1,  
O21-95, O98, O99, Z37

|                                 |   |                            |   |     |         |
|---------------------------------|---|----------------------------|---|-----|---------|
| Ischemic heart<br>disease (IHD) | 410; 411; 412;<br>413; 414 up to and<br>including March<br>31, 2001 | 410; 411; 412;<br>413; 414 | One or more hospitalizations<br>or procedure code or two or<br>more physician claims within<br>one year | 20+ | 2000-01 |
|---------------------------------|---|----------------------------|---|-----|---------|

I20, I21, I22, I23,  
 I24, I25 from April  
 1, 2001 onward

|  |  |               |  |     |         |
|--|--|---------------|--|-----|---------|
| Chronic obstructive pulmonary disease (COPD) | 491; 492; 496 up to and including March 31, 2001 | 491; 492; 496 | One or more hospitalizations or one or more physician claims ever                  | 35+ | 2000-01 |
|  | J41, J42, J43, J44 from April 1, 2001 onward     |               | Special exclusions: ICD-9 Code 490, and ICD-10 Code J40                            |     |         |
| Asthma                                       | 493 up to and including March 31, 2001           | 493           | One or more hospitalizations ever or two or more physician claims within two years | 1+  | 2000-01 |

J45, J46 from April

1, 2001 onward

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|               |  |     |  |     |         |
|---------------|--|-----|--|-----|---------|
| Cancer        | C00-80, C97                                  | N/A | One or more hospitalizations   |     | 2001-02 |
| Heart failure | 428 up to and<br>including March<br>31, 2001 | 428 | One or more hospitalizations<br>or two or more physician<br>claims within one year | 40+ | 2000-01 |

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I50 from April 1,

2001 onward

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|                                |  |     |   |     |         |
|--------------------------------|--|-----|---|-----|---------|
| Acute myocardial<br>infarction | 410 up to and<br>including March<br>31, 2001 | N/A | One or more hospital<br>inpatient admission | 20+ | 2000-01 |
|--------------------------------|--|-----|---|-----|---------|

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I21; I22 from April

1, 2001 onward

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|                        |   |                            |  |     |         |
|------------------------|---|----------------------------|--|-----|---------|
| Stroke                 | G45.x (exclude<br>G45.4), H34.0,<br>H34.1, I60.x, I61.x,<br>I63.x (exclude<br>I63.6), I64               | 430, 431, 434, 435,<br>436 | One or more hospitalization<br>or two or more physician<br>claims within one year            | 20+ | 2003-04 |
| Hip fracture           | 820 up to and<br>including March<br>31, 2001<br><br>S72.0; S72.1; S72.2<br>from April 1, 2001<br>onward | N/A                        | One or more hospitalizations<br>(6 month episode period)                                     | 40+ | 2000-01 |
| Dementia,<br>including | G30, F00, F01, F02,<br>F03  | 290, 331                   | One or more hospitalizations;<br>or three or more physician<br>claims within two years, with | 65+ | 2002-03 |

Alzheimer's  
disease

at least 30 days between each  
claim

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Epilepsy

G40

345

• For individuals aged 1-19 1+ 2005-06

years:

Three or more physician  
claims, with at least 30 days  
between each claim, within  
two years.

• For individuals aged 20  
years and over:

One or more hospitalizations;  
or three or more physician  
claims, with at least 30 days  
between each claim, within  
two years.

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|                    |     |     |   |         |
|--------------------|-----|-----|---|---------|
| Parkinsonism       | N/A | 332 | Two or more physician claims, 40+<br>with at least 30 days between<br>the first and the second claim<br>within one year | 2004-05 |
| Multiple sclerosis | G35 | 340 | One or more hospitalizations 20+<br>or five or more physician<br>claims within two years                                | 2003-04 |

Abbreviations: ICD-9, *International Classification of Disease – 9<sup>th</sup> Revision*; ICD-10-CA, *International Classification of Disease – 10<sup>th</sup> Revision (Canadian)*.

Source: Canadian Chronic Disease Surveillance System, Public Health Agency of Canada. Public Health Infobase: Canadian Chronic Disease Surveillance System (CCDSS), 2018. Retrieved from <https://health-infobase.canada.ca/ccdss/data-tool/Index>.

Xie L, Semenciw R, Mery L. Cancer incidence in Canada: trends and projections (1983-2032). Health Promot Chronic Dis Prev Can 2015;35 Suppl 1:2-186. Retrieved from <https://www.canada.ca/en/public-health/services/reports-publications/health-promotion-chronic-disease-prevention-canada-research-policy-practice/vol-35-no-1-2015/supplement.html>.

**Table S5.** Provincial Medical Care Plan Procedure Billing Codes Used to Describe Diagnostic Imaging Claims in Newfoundland and Labrador, Canada

| <b>Procedure Code</b> | <b>Procedure Description</b> |
|-----------------------|------------------------------|
| General               |                              |
| Radiograph            |                              |
| 701000                | Skull-Routine                |
| 701010                | Sella turcica                |
| 701100                | Facial bones                 |
| 701110                | Nose                         |
| 701120                | Mandible                     |
| 701130                | Temperomandibular joints     |
| 701200                | sinuses                      |
| 701210                | Mastoids - acute             |
| 701320                | Teeth - full set             |

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|        |  |
|--------|--|
| 701400 | Eye - for foreign body                 |
| 701410 | Eye - for localization (stereo-optics) |
| 701420 | Optic Foramina                         |
| 701500 | Salivary gland region                  |
| 701600 | Neck for soft tissues                  |
| 701900 | General radiograph                     |
| 702000 | Cervical spine                         |
| 702100 | Thoracic spine                         |
| 702200 | Lumbar or lumbosacral spine            |
| 702250 | Sacrum and/or coccyx                   |
| 702300 | Pelvis - single view                   |
| 702350 | Pelvis and hips                        |
| 702400 | Sacroiliac joints                      |
| 702450 | Spine - scoliosis series               |
| 702500 | Ribs - unilateral                      |

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|        |   |
|--------|---|
| 702510 | Ribs - bilateral, extra   |
| 702600 | Sternum   |
| 702700 | Special additional view of any spine and pelvis item                        |
| 703000 | Clavicle  |
| 703010 | Sternoclavicular joint  |
| 703030 | Acromioclavicular joints - bilateral (with or without weighted distraction) |
| 703100 | Shoulder  |
| 703200 | Scapula   |
| 703300 | Humerus   |
| 703310 | Elbow   |
| 703320 | Ulna and radius   |
| 703330 | Wrist   |
| 703340 | Wrist and Hand  |
| 703350 | Hand  |
| 703360 | Finger  |

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|        |   |
|--------|---|
| 703370 | Thumb, including metacarpals  |
| 703380 | Scaphoid  |
| 703500 | Hip   |
| 703510 | Hip pinning, interpretation only                                      |
| 703520 | Femur   |
| 703530 | Orthoroentgenogram  |
| 703600 | Knee  |
| 703640 | Tibia and fibula  |
| 703660 | Ankle   |
| 703680 | Calcaneous  |
| 703700 | Foot  |
| 703800 | Toe   |
| 703900 | Special additional view of any item in the section headed extremities |
| 703950 | Post reduction check  |
| 704300 | Skeletal survey for bone age - single film                            |

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|        |  |
|--------|--|
| 704310 | Skeletal survey for bone age - 2 or more films or views      |
| 704400 | Other survey - basic for rheumatoid survey                   |
| 704500 | Other survey - basic for metabolic survey                    |
| 704600 | Other survey - basic for metastatic survey                   |
| 704650 | Other survey - plus per film or view for either of the above |
| 705010 | Chest - single film  |
| 705020 | Chest - 2 views  |
| 705030 | Chest - 3 or more views                                      |
| 705200 | Mammography - unilateral                                     |
| 705220 | Mammography - bilateral                                      |
| 705250 | Screening mammography program                                |
| 706000 | Abdomen - Survey film  |
| 706010 | Abdomen - additional film studies (acute abdomen)            |
| 706100 | Oesophagus   |
| 706200 | Stomach and duodenum   |

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|        |   |
|--------|---|
| 706210 | Stomach and duodenum with small intestinal series |
| 706250 | Small bowel only                                  |
| 706260 | Upper GI - double contrast                        |
| 706300 | Colon - barium enema                              |
| 706310 | Colon - with air study                            |
| 706450 | T-tube cholangiogram                              |
| 706500 | Operative cholangiogram, interpretation only      |
| 707000 | GU tract - Survey film                            |
| 707050 | Retrograde pyelogram                              |
| 707100 | Intravenous pyelogram                             |
| 707140 | Intravenous pyelogram - with nephrotomogram       |
| 707300 | Urethrocytogram                                   |
| 707350 | Stress urethrocytogram                            |
| 707380 | Voiding urethrocytogram                           |
| 707450 | Nephrostogram                                     |

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|                 |   |
|-----------------|---|
| 708240          | Obstetrics and Gynecology - Hysterosalpingogram |
| Computed        |   |
| Tomography Scan |   |
| 738000          | Head - without IV contrast                      |
| 738010          | Head - with IV contrast                         |
| 738020          | Head - with and without IV contrast             |
| 738050          | Complex head - without IV contrast              |
| 738060          | Complex head - with IV contrast                 |
| 738070          | Complex head - with and without IV contrast     |
| 738100          | Neck - with IV contrast                         |
| 738110          | Neck - without IV contrast                      |
| 738120          | Neck - with and without IV contrast             |
| 738150          | Thorax - without IV contrast                    |
| 738160          | Thorax with IV contrast                         |
| 738170          | Thorax with and without IV contrast             |

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|                |  |
|----------------|--|
| 738200         | Abdomen - without IV contrast              |
| 738210         | Abdomen - with IV contrast                 |
| 738230         | Abdomen with and without IV contrast       |
| 738250         | Extremities - without IV contrast          |
| 738260         | Extremities - with IV contrast             |
| 738270         | Extremities - with and without IV contrast |
| 738300         | Spine without IV contrast                  |
| 738310         | Spine with IV contrast                     |
| 738320         | Spine with and without IV contrast         |
| 738350         | Pelvis without IV contrast                 |
| 738360         | Pelvis with IV contrast                    |
| 738370         | Pelvis with and without IV contrast        |
| <hr/> Magnetic |  |
| Resonance      |  |
| Imaging Scan   |  |

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|        |                                    |
|--------|------------------------------------|
| 738500 | Head - multislice SE               |
| 738510 | Head - multislice IR               |
| 738520 | Head - repeat                      |
| 738530 | Head with gating                   |
| 738550 | Neck - multislice SE               |
| 738560 | Neck - multislice IR               |
| 738570 | Neck - repeat                      |
| 738600 | Thorax - multislice SE             |
| 738610 | Thorax - multislice IR             |
| 738620 | Thorax - repeat                    |
| 738630 | Thorax - when gating is performed  |
| 738650 | Abdomen - multislice SE            |
| 738660 | Abdomen - multislice IR            |
| 738670 | Abdomen - repeat                   |
| 738680 | Abdomen - when gating is performed |

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|        |                                   |
|--------|-----------------------------------|
| 738700 | Pelvis - multislice SE            |
| 738710 | Pelvis - multislice IR            |
| 738720 | Pelvis - repeat                   |
| 738750 | Extremity - multislice SE         |
| 738760 | Extremity - multislice IR         |
| 738770 | Extremity - repeat                |
| 738800 | Spine - 1 segment - multislice SE |
| 738810 | Spine 1 segment - multislice IR   |
| 738820 | Spine 1 segment - repeat          |
| 738860 | Spine 2 segments - multislice SE  |
| 738870 | Spine 2 segments - multislice IR  |
| 738880 | Spine - 2 segments - repeat       |
| 738910 | Complex spine - multislice SE     |
| 738920 | Complex spine - multislice IR     |
| 738930 | Complex spine - repeat            |

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745200

Diagnostic biopsy by any radiography technique

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Source: Medical Care Plan, Department of Health and Community Services (2011). Medical Payment Schedule - 2009.

Retrieved from [http://www.health.gov.nl.ca/health/mcp/providers/full\\_mcp\\_payment\\_schedule\\_2009.pdf](http://www.health.gov.nl.ca/health/mcp/providers/full_mcp_payment_schedule_2009.pdf).

**Table S6.** 2009/10 Age-stratified Provincial Cohort (N=504,693) Proportion of Prevalent Cases in Newfoundland and Labrador, Canada

|             | % Prevalent Cases (95% CI) <sup>a</sup> |                 |                 |
|-------------|---|-----------------|-----------------|
|             | Both Sexes                              | Female          | Male            |
| All Ages    | 36.6(36.4-36.7)                         | 42.8(42.7-43.0) | 30.1(29.9-30.3) |
| Age Group   |   |                 |                 |
| 0-9 years   | 4.9(4.7-5.2)                            | 5.0(4.6-5.3)    | 4.9(4.6-5.2)    |
| 10-17 years | 12.4(12.1-12.7)                         | 12.7(12.2-13.1) | 12.1(11.7-12.5) |
| 18-24 years | 22.1(21.8-22.5)                         | 26.7(26.1-27.3) | 17.6(17.2-18.1) |
| 25-34 years | 28.8(28.5-29.2)                         | 37.1(36.5-37.6) | 20.3(19.8-20.7) |
| 35-44 years | 37.4(37.0-37.7)                         | 45.4(44.9-45.9) | 28.9(28.4-29.3) |
| 45-54 years | 45.3(45.0-45.6)                         | 52.8(52.3-53.2) | 37.6(37.1-38.0) |
| 55-64 years | 50.6(50.2-50.9)                         | 57.3(56.8-57.7) | 43.8(43.3-44.3) |
| 65-74 years | 51.7(51.2-52.1)                         | 57.2(56.5-57.8) | 46.0(45.3-46.6) |
| 75-84 years | 54.7(54.1-55.3)                         | 58.9(58.0-59.7) | 49.4(48.5-50.4) |



|                   |                 |                 |                 |
|-------------------|-----------------|-----------------|-----------------|
| 85 and over years | 57.8(56.8-58.9) | 59.7(58.5-61.0) | 53.7(51.8-55.5) |
|-------------------|-----------------|-----------------|-----------------|

Abbreviations: N, total cohort population; CI, confidence interval, MCP, Medical Care Plan; NL, Newfoundland and Labrador.

<sup>a</sup> Prevalent case was defined as case selection by the Chronic Pain Algorithm applied to 1999-2009 provincial cohort NL MCP Fee-for-Service Physician Claims File data. The Chronic Pain Algorithm was defined as: 1) a single encounter date with an anesthesiologist recording a chronic pain-related provincial MCP procedure billing code (Table S2, Supplementary Digital Content), OR 2) five or more encounter dates with any physician recording any pain-related diagnostic code (Table S3, Supplementary Digital Content) in a five-year period with more than 183 days separating at least two pain-related encounter dates.